

Application No. 10/827,311
Attorney Docket No.: 042348
Amendment Filed: July 31, 2007

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions of claims in the application.

Claim 1 (Withdrawn): A method of centering a log comprising the steps of rotating a log about a preliminary axis, measuring the contour of the log at intervals of desired rotation angles, and calculating, based on the measured contour data, a optimum yield axis suitable for the peeling of the log and a maximum radius of rotation of the log that corresponds to said optimum yield axis, wherein:

the contour of the log that is used for calculating the optimum yield axis and the contour of the log that is used for calculating the maximum radius of rotation are measured separately, wherein the contour for calculating the optimum yield axis is obtained in a fixed-point manner by measuring the log at a plurality of desired measurement points disposed at appropriate intervals along the axis of the log, whereas the contour for calculating the maximum radius of rotation is obtained in a comprehensive manner by measuring the log in a plurality of desired measurement sections allocated along the axis of the log virtually without any gaps therebetween.

Claim 2 (Withdrawn): The method of centering a log according to claim 1, wherein the contour for calculating the optimum yield axis of the log is measured at at least two measurement points near each end portion of the log.

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Claim 3 (Withdrawn): The method of centering a log according to claim 2, wherein the contour for calculating the optimum yield axis is measured additionally at one measurement point near a center portion of the log.

Claim 4 (Currently Amended): A log centering apparatus, comprising:

a pair of preliminary rotating axles rotatably supported by bearing boxes mounted on a frame of said log centering apparatus and disposed on either end face of a log, said preliminary rotating axles move horizontally by the operation of an actuator mechanism, and at least one of the axles is rotated by operation of a drive source;

a rotation angle detector mounted in the drive source, wherein the rotation angle detector detects [[the]] an angle of rotation of the rotating axles;

a plurality of beam reflection scanners mounted on a support frame of said log centering apparatus and disposed at a plurality of positions along [[the]] a horizontal axis of the log, wherein [[the]] a detection direction of the beam reflection scanners [[are]] is oriented toward the axis of the preliminary axles;

a plurality of contact-swinging detection members mounted on the support frame of said log centering apparatus and disposed at a plurality of positions along the horizontal axis of the log, each contact-swinging detection member comprising a base portion pivotally supported by a support axle positioned near the periphery of the log supplied to the preliminary axis location, and a tip portion to which a detection element is attached such that the detections elements are

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arranged along the axis of the log virtually without any gaps therebetween and are adapted to be in contact with the periphery of the log;

a plurality of swing angle detectors mounted on the support frame of said log centering apparatus, wherein the swing angle detectors individually detect the amount of swinging of each detection member; and

a centering computation mechanism for calculating optimum yield axis suitable for the peeling of the log based on a detection signal supplied from the rotation angle detectors and contour data supplied from the beam reflection scanners, and for calculating a maximum radius of rotation of the log that corresponds to the optimum yield axis based on contour data supplied from the swing angle detectors in addition to the detection signal from the rotation angle detector and the contour data from the beam reflection scanners.

Claim 5 (Previously Presented): The log centering apparatus according to claim 4, wherein the beam reflection scanners are disposed at at least two positions near either end portion of the log.

Claim 6 (Previously Presented): The log centering apparatus according to claim 5, wherein the beam reflection scanner is additionally disposed at one position near a center portion of the log.

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Claim 7 (Previously Presented): The log centering apparatus according to claim 4, 5 or 6, wherein the contact swinging detection members comprise a planar detection element.

Claim 8 (Previously Presented): The log centering apparatus according to claim 4, 5 or 6, wherein the contact swinging detection members comprise a cylindrical detection element.

Claim 9 (New): The log centering apparatus according to claim 4, wherein the frame is integral with the support frame.